

Steroids

Myeloma Nurse Guide

The Myeloma Nurse Guide Series has been developed to enhance nurse knowledge, inform practice and support nurses in the delivery of high quality treatment and care to myeloma patients and families. The information has been reviewed by myeloma nurse and medical experts and should be used in conjunction with local and national policies, protocols and guidelines.

What are steroids?

Steroids are drugs which mimic certain natural hormones in the body. They regulate metabolic, immunologic, cardiovascular, and homeostatic function.

In myeloma, steroids work by inhibiting the expression of cytokines and reducing the activity of nuclear factor kappa B, both of which are required for myeloma cell growth and survival. This dual action of steroids causes myeloma cell death. Steroids can be used on their own but usually they are used in combination with other anti-myeloma treatments as they have a synergistic and complementary effect.

Steroids commonly used in myeloma are glucocorticoids (e.g. dexamethasone, prednisolone and methylprednisolone).

Side effects

- Insomnia
- Fatigue
- Blurred vision and cataracts
- Oedema
- Sexual dysfunction
- Hiccups
- Proximal myopathy
- Mood swings, hallucination and psychosis
- Flushing/sweating
- Increased appetite/weight gain
- Rash
- Abdominal bloating
- Gastric or duodenal ulceration
- Hyperglycaemia
- Osteoporosis
- Immunosuppression, leucocytosis

Assessment and monitoring

Assessment features	Rationale
Full medical history pre-treatment	Extra caution required in people with diabetes/family history of diabetes, glaucoma, heart failure, recent myocardial infarction, hepatic disease, hypothyroidism, osteoporosis, obesity, peptic ulceration, and psychiatric disorders
Monitor weight	Potential weight gain, due to changes in metabolism, and electrolyte and fluid imbalances
Regular blood tests: full blood count, electrolytes, glucose	Increased risk of infection due to immunosuppression, electrolyte imbalance, hyper/hypoglycaemia
Blood pressure	Fluid retention and loss of potassium, especially in patients with cardiac conditions
Ophthalmic examination (if medical history indicates)	Patients may develop raised intraocular pressure resulting in blurred vision. Cataracts can also develop due to steroid use.

Side effects can be graded and monitored using the Common Terminology Criteria for Adverse Events (CTCAE): https://ctep.cancer.gov/protocoldevelopment/electronic_applications/docs/ctcae_v5_quick_reference_5x7.pdf

Prevention and treatment

Steroid treatment varies according to the individual patient and treatment protocol. Common starting doses are 20 or 40mg oral dexamethasone daily for 4 days of a treatment cycle; patients aged >75 years start at lower dose. Patients with pre-existing comorbidities or difficult side effects may need dose modification.

Careful monitoring, early identification and timely intervention of side effects are important for compliance and obtaining optimum treatment efficacy.

Nursing management points: side effects

Steroid-induced hyperglycaemia

- Educate patients about the symptoms of high and low blood glucose levels and how to monitor and record their blood sugars at home
- Ensure patients who have pre-existing diabetes, or those at high risk of developing diabetes, are closely monitored
- Monitor use of oral hypoglycaemic drugs or insulin as required
- Liaise with the diabetes team/nurses where necessary
- Advise on modifying diet by reducing sugar and simple carbohydrate intake, and weight reduction if overweight

Weight gain and oedema

- Encourage a healthy balanced diet and regular gentle exercise
- Explain that steroids can cause an increase in appetite
- Refer to a dietitian where appropriate
- Advise patients to elevate legs if their feet and ankles are swollen
- Advise on reducing dietary salt intake for patients with sodium retention
- Monitor use of diuretics if required
- Be aware of body image issues related to weight gain and cushingoid changes, and provide psychological support

Indigestion

- Advise patients to take steroids with food
- Monitor use of prescribed prophylactic proton pump inhibitors
- Advise on avoiding greasy and highly acidic foods to reduce symptoms
- Suggest using more pillows if gastric reflux is problematic at night
- Monitor for hiccups, if prolonged may need treatment

Muscle weakness (myopathy) and osteoporosis

- Assess for signs of proximal limb weakness
- Consider referral to physiotherapist for muscle strengthening exercises
- Advise on weight-bearing exercise for patients if appropriate
- Monitor for weakness and myalgia when steroids stop
- Consider tapering doses at the end of steroid blocks to reduce symptoms

Mood changes

- Prepare patients and families for the likelihood of these changes and explain that steroids are a common cause of mood swings
- Help patients plan how to adapt their activities accordingly
- Assess for emotional and psychological changes, and refer as required
- Sometimes antidepressants or anti-anxiolytics are needed

Hyperactivity and fatigue

- Advise patients on the risks of hyperactivity on steroid-taking days
- Discuss how to make adaptations in lifestyle and activity to help with fluctuating energy levels, encourage gentle exercise
- Suggest using relaxation, meditation, visualisation and other complementary therapies

Immunosuppression

- Monitor patients for signs of infections
- Inform patients of increased risk of infection and reporting symptoms
- Be aware that steroids can increase the white blood cell count

Insomnia

- Advise to take steroids in the morning and avoid dividing doses
- Help patients evaluate their sleep habits to see if insomnia is steroid-related, or caused by other conditions
- Encourage good sleep hygiene
- Sedatives and hypnotics may be of benefit for some patients

Ophthalmic changes

- Explain to patients that temporary blurring of vision may occur, which is usually reversible
- Advise patients to wait until treatment is completed before changing their glasses prescription
- Monitor for signs of cataracts in patients who have taken steroids long-term

Patient information key points

- Provide written information to help patients and family members understand steroid treatment and side effects
- Explain the importance of early reporting of side effects and provide contact numbers



References



A list of key references is available on Myeloma Academy:

academy.myeloma.org.uk/myeloma-nurse-guide-references



Myeloma★Academy

For further nurse guides and other educational resources on myeloma and related conditions:

academy.myeloma.org.uk

Published by:	Myeloma UK
Publication date:	August 2022
Last updated:	August 2022
Review date:	December 2024

Myeloma UK 22 Logie Mill, Beaverbank Business Park, Edinburgh EH7 4HG

☎ 0131 557 3332 ✉ myelomauk@myeloma.org.uk

Registered Charity No: SC026116